

II. AMENDMENTS TO THE CLAIMS

Please cancel claims 1-17 and substitute the following set of new claims for the cancelled claims.

Claims 1-17 (cancelled)

Claim 18 (new): A combined spring brake modulating relay valve, comprising:

- (a) a housing having a control port wherein said control port is adapted to receive a signal from a control valve, a supply port separate from said control port wherein said supply port is directly connected to pressurized air from an associated reservoir, a delivery port, an exhaust port, and a chamber formed therein in selective communication with said supply port adapted to receive pressurized air from said associated reservoir as a result of said signal received by said control port for communication between said supply port and said delivery port, said delivery port adapted to communicate with associated spring brake chambers, and said exhaust port adapted to communicate with ambient;
- (b) a first valve member in said chamber normally biased to preclude communication between said supply and delivery ports and permit communication between said delivery port and said exhaust port;
- (c) a first piston received in said housing and movable in response to pressure from said control port;
- (d) a second piston received in said housing and operatively associated with said first piston for selective movement relative to said first piston;
- (e) primary and secondary ports communicating with opposite faces of said second piston and communicating with primary and secondary brake circuits so that when both brake circuits are operational, there is no impact on said second piston; and
- (f) a first spring urging said first piston toward abutting engagement with said second piston under certain pressure conditions.

Claim 19 (new): The combined valve of claim 18, wherein said second piston and said valve member are normally disposed in spaced relation and engage one another in response to pressure in said control port.

Claim 20 (new): The combined valve of claim 18 wherein, in response to failure of said primary brake circuit, there is no air pressure on one side of said second piston, and said second piston is separated from said valve member permitting pressure from said spring brake chambers to be modulated and used to control said primary brake circuit.

Claim 21 (new): The combined valve of claim 18 wherein, in response to failure of said secondary brake circuit, said second piston sealingly engages said valve member and urges said valve member from a seat for said valve member allowing an increased pressure flow between said supply and delivery ports.

Claim 22 (new): The combined valve of claim 18, wherein when said primary and secondary brake circuits are operational, there is no modulation of said pressure at said delivery port.

Claim 23 (new): The combined valve of claim 18, further comprising a biasing spring for urging said second piston from disengagement with said valve member.

Claim 24 (new): The combined valve of claim 18, further comprising a biasing member operatively associated with said valve member for urging said valve member toward a seated position to preclude communication between said supply port and said delivery port.

Claim 25 (new): The combined valve of claim 18, further comprising an anti-compounding feature that provides pressure to said spring brake chambers during normal service braking when said spring brake is applied during a park application.

Claim 26 (new): The combined valve of claim 25, wherein said anti-compounding feature routes a portion of said primary brake circuit pressure to said first piston.

Claim 27 (new): A spring brake modulating relay valve for an air brake system, comprising:

(a) a housing having a supply port, a delivery port, an exhaust port, a control port separate from said supply port, a primary brake circuit port, and a secondary brake circuit port; and

(b) a valve assembly received in said housing and movable in response to air pressure in said housing, said valve assembly including a relay piston in selective communication with said control port and said primary brake circuit port, a modulating piston having surfaces selectively pressurized by said primary brake circuit port and said secondary brake circuit port to modulate pressure from said delivery port thereby selectively applying pressure to associated spring brake chambers when a failure is detected at said primary brake circuit port, and an exhaust member that selectively controls communication between said supply and delivery ports; and wherein said relay piston and said modulating piston are operatively connected via biasing members that urge said pistons to move together as a unit and allow relative movement therebetween in response to pressure conditions.

Claim 28 (new): The spring brake modulating relay valve of claim 27, wherein said exhaust member is urged toward a closed position that precludes communication between said supply and delivery ports.

Claim 29 (new): The spring brake modulating relay valve of claim 27, wherein said primary brake circuit port communicates with said relay piston in said absence of pressure at said control port to provide an anti-compounding feature to said spring brake modulating relay valve.

Claim 30 (new): A combined spring brake modulating relay valve comprising:

(a) a housing having a control port wherein said control port is adapted to receive a signal from a control valve, supply port separate from said control port wherein said supply port is directly connected to pressurized air from an associated reservoir, delivery port, exhaust port, and a chamber formed therein in selective communication with said supply port adapted to receive pressurized air from said associated reservoir as a result of said

signal received by said control port for communication between said supply port and said delivery port, said delivery port adapted to communicate with associated spring brake chambers, and said exhaust port adapted to communicate with ambient;

(b) a valve member in said chamber normally biased to preclude communication between said supply and delivery ports and permit communication between said delivery port and said exhaust port;

(c) a first piston received in said housing and movable in response to pressure from said control port;

(d) a second piston received in said housing and operatively associated with said first piston for selective movement relative to said first piston;

(e) primary and secondary ports communicating with opposite faces of said second piston and communicating with primary and secondary brake circuits so that when both brake circuits are operational, there is no impact on said second piston; and wherein, in response to failure of said secondary brake circuit, said second piston sealingly engages said valve member and urges said valve member from a seat for said valve member allowing an increased pressure flow between said supply and delivery ports.

31 (new): A spring brake modulating relay valve, comprising:

(a) a housing, said housing further comprising: a plurality of ports formed said housing; an internal chamber in selective communication with said plurality of ports, and wherein said plurality of ports further comprises:

(i) a supply port for receiving pressurized air, a delivery port, and an exhaust port formed in the lower portion of said housing;

(ii) a port for a primary brake circuit and a port for a secondary brake circuit, said ports being formed in the intermediate portion of said housing; and

(iii) a control signal port formed in the upper portion of said housing; and

(b) a relay piston mounted in said chamber, wherein said relay piston further comprises a first internal shoulder;

- (c) a modulating piston mounted in said chamber, wherein said modulating piston further comprising a second internal shoulder;
- (d) an auxiliary piston mounted in said chamber and forming an extension of the bottom portion of said modulating piston;
- (e) a first spring for engaging one side of said first internal shoulder and one side of said second internal shoulder, and wherein said first spring permits said relay and said modulating pistons to move as a unit under predetermined pressure conditions;
- (f) a retention ring for providing an abutment surface for the opposite side of said first shoulder and for defining the engagement between said relay and modulating pistons in the absence of air pressure;
- (g) a second spring mounted between said housing and said modulating piston for urging said relay, modulating, and auxiliary pistons toward a first or upper position;
- (h) an exhaust valve for engaging and forming a seal with said auxiliary piston;
- (i) a third spring for urging said exhaust valve toward a seated position within said housing such that said supply port cannot communicate with said delivery port;
- (j) a first check valve in communication with said control signal port normally biased for permitting communication between said control signal port and said relay piston and preventing communication between said control signal port and said primary brake circuit port; and
- (k) a second check valve normally biased to preclude communication between said control port and said supply port.

32 (new): The spring brake modulating relay valve of claim 31, wherein said second check valve permits communication between said control port and said supply port in the event of a failure in said secondary circuit.

33 (new): The spring brake modulating relay valve of claim 31, wherein said pressurized air may be received from a single, secondary air source or a from primary and secondary sources of pressurized air.